THE

SIXTH ANNUAL REPORT

FROM

THE GOVERNORS

OF THE

MADRAS UNIVER

1846-47.

MADRAS:

PRINTED BY R. TWIGG, AT THE CHRISTIAN KNOWL
SOCIETY'S PRESS, VEPERY.

1847.

228

VII

VII

THE

SIXTH ANNUAL REPORT

FROM

THE GOVERNORS

OF THE

MADRAS UNIVERSITY,

1846-47.

MADRAS:

PRINTED BY REUBEN TWIGG, AT THE CHRISTIAN KNOWLEDGE SOCIETY'S PRESS, CHURCH STREET, VEPERY.

1847.

MADRAS UNIVERSITY.

President.

GEORGE NORTON, ESQ

Governors.

J. WYLIE, ESQ., M. D
L. VENCATAPUTTY NAIDOO, ESQ.
J. OUCHTERLONY, ESQ
C. STREENEVASSA PILLAY, ESQ.
J. B. NORTON, ESQ.
T. G TAYLOR, ESQ.
C RUNGANADUM, ESQ.
CAPTAIN J. J. LOSH
K NURSINGA ROW, ESQ.
M. SOOMASOONDRUM, ESQ.

Secretary.

A. J ARBUTHNOT, ESQ.

Head Master of the High School..... E B. POWELL, ESQ.
Second Master do. do. ..... A. A. GORDON, ESQ.

First Tutor....MR. G. G. WHITE,
Second do. ....MR. H. BOWERS,
Third Tutor....MR J. McLEISH,
Fourth do. ....MR. T. B. PEPPIN.

Writing Master and Librarian..... MR S. LAURIE.

Native Teachers.

T. RAMASAWMY PILLAY..... *Interpreter.*
RAMA KISTNA SHASTRY..... *Tamil and Teloogoo Superintendent.*
GUNNESH GUNGADER SHASTRY.. *Mahratta Pundit.*
MAHA LINGIAH IYER ..... *Tamil do*
P CHINNIAH SOOREE..... *Teloogoo do.*

From

The PRESIDENT *and* GOVERNORS *of the*

MADRAS UNIVERSITY.

To

The Most Noble the

GOVERNOR IN COUNCIL.

LORD MARQUIS AND HONORABLE SIRS,

1. We, the President and Governors of the Madras University, have the honor to submit our Sixth Annual Report on that Institution.

2. In obedience to the directions of Government contained in the Minutes of Consultation, No. 129, dated 5th February last, we confine our attention to that department of the Institution which alone has been as yet established, namely, the High School.

3. In point of number the School has not materially increased during the last year, although it has considerably increased in the progress of the last two years. It is satisfactory to state that the proportion of increase has been greater during these last two years than in any previous. This we consider to be very much owing to the respectable employment readily attained by all the Proficients who have left the School (chiefly in Government Offices), and to the influence which their educational advantages have given them amongst the Native society. This influence, and also the capacity to render conspicuous service, as well under Government employment as to the community at large, will be greatly advanced, whenever it shall

be the policy of Government to found Collegiate Classes in the superior branches of Literature and professional Science.

4. The total number notified by our last Report was one hundred and fifty-three. There have left since the date of the last Report 90. The additional number is 94. The present number is 157. The scholars are all peremptorily required under penalty of dismissal to attend daily, except under special leave of absence. The causes for this comparatively slow increase of number, and the measures likely to contribute to the more rapid progress of the school, we have adverted to in former Reports, and particularly in our Fourth, and we need not therefore repeat them.

5. We are much gratified by the communication made to us in the Extract from Minutes of Consultation, dated 22d June last, that it is the intention of Government to recommend again to the consideration of the Honorable Court of Directors the erection of a structure suitable to the objects of the Institution, upon a plan admitting of such gradual extension as its successful progress may suggest. It is needless to advert again to this among the most prominent sources conducive to the prosperity of the Institution, as Government has already made us acquainted with the sentiments of the Honorable Court, as expressed in its letter to this Government, dated 18th August, 1844, in answer to this Government's dispatch of No. 3, para. 5 of the same year, and which leave no doubt of the Honorable Court's concurrence in the recommendation. From that letter of the Honorable Court we learn its favorable view of the effects of this measure, as then suggested by Government, provided it should be satisfied of the stability of the Institution. Of this we presume Government is now entirely satisfied, since it has again resolved to recommend the outlay;

and we only desire to add that our formerly expressed convictions of its permanent success, under the fostering support of Government, have been strengthened year by year from the results testified to in this and our latest Annual Reports.

6. We have the same reason as heretofore expressed for satisfaction at the result of the last Annual Public Examination. Two scholars (Sashiah and Ramanoojum) attained their Proficients' degree, with "honors." We transmit in the Appendix (*A*) a list of the average number of Scholars daily attending, together with a statement of the studies pursued in the several classes, since the last classification; in *B* specimens of the Exercises performed; and in *C* an abstract of the Receipts and Disbursements.

7. There has been no material deviation from the course of studies laid down from the commencement of the Institution—except as regards some Elemental Instruction in Sciences more appropriate to the Collegiate Department, if it should be hereafter organized, such as Political Economy, Chemistry, and some other branches of Natural Philosophy for which the higher scholars evince a taste. As regards instruction in the Vernacular languages, we are following out what we consider an improved system, as set forth in our Fourth Annual Report. This is a subject which still engages our attention.

8. We have to express our continued satisfaction with the Masters and Tutors, who evince the same zeal in the performance of their duties.

The obligations of the High School to the Head Master, Mr. Powell, in particular we desire again to record. Since our last Report this department has received additional strength by the arrival of the Second Master, Mr. Adam Gordon. This Gentleman has been selected by the Honorable Mountstuart

Elphinstone, and it is impossible for him to receive a higher recommendation. We are bound to add on this occasion our entire satisfaction with this Gentleman's effective and assiduous services, and his assistance has proved of important value in relieving the Head Master from that continual devotion of his time and labour to the Fourth Class, which in some degree interfered with his general superintendence over the establishment.

9. The Gentlemen assisting in the last public examination were Captain Losh, Mr. J. B. Norton, (two of our Governors) Mr. Key, and also the Government Translators, Mr. C. P. Brown, and Mr. Davidson.

We desire to record our thanks to these Gentlemen for their assistance.

We have the honor to be,
Lord Marquis and Honorable Sirs,
Your very obedient Servants,

(Signed) GEORGE NORTON, *President;*
" J. J. LOSH,
" M. SOOMASOONDRUM,
" K. NURSINGA ROW,
" L. VENCATAPUTTY NAIDOO,
" J. OUCHTERLONY,
" JOHN BRUCE NORTON,
" T. G. TAYLOR,
" J. WYLIE,
" C. RUNGANADUM,
" C. STREENEVASSA PILLAY.

MADRAS UNIVERSITY,
3d July, 1847.

APPENDIX A.

Scheme showing the average daily attendance of the Scholars in the several Classes of the High School from the Classification of the Boys in November, 1846, *to the Public Examination in March,* 1847.

Class.	Rank.	Average No. of Boys in the Rank.	Average No. of Boys in the Rank attending daily.
4th	Upper.	4	4
4th	Lower.	9	8
3d	Upper.	15	12
3d	Lower.	23	20
2d	Upper.	23	20
2d	Lower	20	17
1st	Upper.	18	17
1st	Lower.	21	17
Preparatory.	....	24	20
	Totals...	157	135

N. B.—The discrepancies between the Numbers in the third and fourth columns do not arise from the repeated absence of the same scholars, but from occasional absences due to indisposition, and other causes of a like nature; also no Boy is allowed to absent himself without special leave.

E. B. POWELL,
Head Master.

Scheme of Studies pursued by the Scholars of the High School during the year 1846-47.

English Department.

Subjects.	Books.	Portions read during the Year	Portions in which the Scholars were examined.
	4th Class, Upper Rank.		
History	Russell's Modern Europe	Vols III and IV, Part III, Letters 8, 9, 10, 12, 13, and 14.....	Letters 9 and 10.
English Literature.....	Marshman's India ..... Chamber's Cyclopædia of English Literature	Portions. Vol. 1. Milton, Dryden, Shakspeare	

Subjects	Books.	Portions read during the Year.	Portions in which the Scholars were examined.
	Richardson's Selections..	Milton's Paradise Lost, 1st 4 Books.....	The whole.
	Shakspeare's Works.....	Hamlet, King John, Richard III. and portions of Henry IV and Henry VIII.....	The whole.
Mental Philosophy.....	Abercrombie on the Intellectual Powers	200 Pages.....	The whole.
	Bacon's Essays.....	The whole.....	The whole
Chemistry	Marcett's Conversations..	Volume II.	
Astronomy.	Herschel's Astronomy....	Chapters 1, 2, 3 and 4.....	The whole.
Recapitulation of Goldsmith's History of England; Geography of India; Plane and Spherical Trigonometry; Outlines of Natural Philosophy; Euclid and Algebra.....			The whole.
	4th Class, Lower Rank.		
History.....	Goldsmith's History of England.....	The whole.	
Principles of Government.....	Norton's Rudimentals	The 5th & 6th Discourses.	
Political Economy.....	Marcett's Conversations.	The first 13 Conversations	The whole.
	Calcutta Reader, No VI..	Brougham's Lecture on the Pleasures of Science; Herschel's Essay on Man regarded as a Creature of Instinct, of Reason, and Speculation; Herschel's Essay on Physical Science; Sir Isaac Newton's Philosophical Discoveries; Dick's Essay on the improvement of Society; Dick's Essay on the utility of Knowledge.	Brougham's Lecture. Dick's Essays.
Shakspeare.....	Dodd's Beauties of Shakspeare.....	Different pieces.	
Poetry.....	Calcutta Poetical Reader, No IV.....	Gray's Elegy written in a Country Churchyard, Thomson's Praise of Philosophy, Byron on the Death of the Princess Charlotte, Goldsmith's Deserted Village.	The whole.
Chemistry	Marcett's Conversations..	Mineral Chemistry.....	The whole.
Conic Sections..	Hamilton's Conic Sections	The straight line, the Circle, the Parabola, and 1st Chapter of the Ellipse.....	The whole.
Euclid.....	Williams' Symbolical Euclid.....	Book XI. to Proposition XXI.....	The whole.
Algebra.....	Annuities; Logarithms.		
Optics.....	Calcutta School Society Book.....	Optics.	
	3d Class, Upper Rank.		
Grammar.....	Murray's Grammar.....	The Appendix.....	The whole.
History.....	Goldsmith's History of England.....	Anne to George III.....	The whole.
Political Government.....	Norton's Rudimentals....	The 1st four Discourses..	The whole.
Geography.....	Guy's Geography.....	Europe, page 3 to 42 large and small type, and page 42 to 77 large type only.	The whole.
	Symonds' Indian Geography	Northern Hindoostan and Hindoostan proper, page 18 to 149.....	Northern Hindoostan and part of Hindoostan proper, page 18 to 94.

Subjects.	Books.	Portions read during the Year.	Portions in which the Scholars were examined.
Poetry.....	Poetical Reader, No 3.	From page 32 to 176.	
Algebra....	Pinnock's Catechism of Algebra.....	The whole.....	The whole.
Geometry	Williams' Symbolical Euclid	1st Division, Books II. III. IV. & VI. 2d Division, Books I & II.....	The whole.
Trigonometry...	Snowball's Trigonometry,	Chapters I. & II. and part of III.....	The whole.
Natural Philosophy.....	Introduction to Natural Philosophy.....	Introduction to Astronomy and Hydrostatics, page 63 to 137.....	Introduction to Astronomy
	3d Class, Lower Rank.		
Grammar.....	Murray's Grammar.....	Etymology from page 41 to 133.....	The whole.
History.....	Goldsmith's History of England.....	From the beginning, to the reign of James I....	William 1st to Elizabeth.
Arithmetic.....	Bonnycastle's Guide.....	Decimal Fractions, Square and Cube Roots, Simple and Compound Interest by Decimals.....	The whole
Geography	Guy's Geography.....	Europe, page 3 to 42 large and small type, and page 42 to 77 large type only.	Page 3 to 42
	Symonds' Indian Geography.....	Northern Hindoostan and Hindoostan proper, page 18 to 149.	Northern Hindoostan and part of Hindoostan proper page 18 to 94.
Use of the Terrestrial Globe..	Guy's Geography..... ..	The Definitions and Problems.....	The whole.
Poetry.....	Poetical Reader, No. III..	Page 29 to 58.	
Algebra.....	Pinnock's Catechism of Algebra, Part I..... ..	The whole.	From the commencement to Involution.
Geometry.....	Williams' Symbolical Euclid.....	Book I. to Proposition 37.	The whole.
Natural Philosophy.....	Introduction to Mechanics 45 pages.		
	2d Class, Upper Rank.		
Grammar.....	Murray's Abridgement....	The whole.....	The whole.
Geography.....	Hogarth's Exercises..... ..	The whole.....	Europe
Arithmetic.....	From the Master.	Compound Division, Reduction, Simple and Compound Proportion, and Vulgar Fractions...	Vulgar Fractions.
Spelling.....	Carpenter's Assistant.. ..	Page 97 to 116, and page 51 to 70.	
Poetry.....	Gay's Fables.....	Page 75 to 108.	
History.....	Goldsmith's History of Rome.....	Chapters 1 to 16.....	Chapters 14, 15, & 16. The Punic Wars.
	2d Class, Lower Rank.		
Grammar..	Murray's Abridgement...	Orthography, Etymology, and Syntax.....	The whole.
Geography	Hogarth's Exercises.. ...	Europe, Asia, and Africa.	Europe.
Arithmetic	From the Master....	From Simple Addition to Reduction.....	The whole.
Spelling.....	Carpenter's Assistant....	From the letter "K" page 37 to the letter "P" page 72.	
Poetry..	Gay's Fables.....	The first 11 Fables.	
History	Goldsmith's History of Rome.....	Chapters 13, 14, 15, and 16.	Chapters 14, 15, & 16.

Subjects	Books.	Portions read during the Year.	Portions in which the Scholars were examined
	1st Class, Upper Division.		
Grammar.....	Murray's Abridgement...	Orthography, Etymology and Syntax.....	The whole.
Arithmetic.....	From the Master.....	Four first Rules, Simple and Compound, and Reduction.....	Reduction.
Geography.....	Hogarth's Exercises.....	Asia, Africa, and America.	America
Spelling.....	Carpenter's Assistant.....	From "K" page 37 to "K" page 65.....	From "E" page 58 to "K" page 65
Poetry.....	Gay's Fables	From Fable 1 to 10 inclusive.....	Fables 3, 5, 6, 8, & 9.
Natural History.	Goldsmith's Natural History	Chapter X. to Chap XXII	Chapters XII. and XIX
	1st Class, Lower Division.		
Grammar..	Murray's Abridgement....	Etymology and Syntax ...	The whole.
Arithmetic.....	From the Master.....	Four first Simple and Compound Rules.....	Compound Addition and Subtraction
Geography.....	Hogarth's Exercises.....	Asia and America.....	America.
Spelling..... ..	Carpenter's Assistant	Pages 70, 71, and 72	
Poetry.....	Gay's Fables.....	Fables 9 and 10	
Natural History.	Goldsmith's Natural History.....	.....	Chapters 19, 20, 21 & 22, as far as page 262.
	Preparatory Class.		
Reading	Æsop's Fables.....	Fable 71 to 170, twice....	Fable 71 to 140
Grammar.....	Elements of Grammar....	Orthography and Etymology.....	Etymology.
Geography..	Clift's Geography	America and Europe, twice each.....	Europe.
Arithmetic.....	From the Master.....	The four Simple Rules ...	Multiplication and Division.

Scheme of Studies pursued by the Tamil, Telugu, and Mahratta Classes, during the year 1846-47.

Vernacular Department.

	Tamil, 1st Class.		
Fables & Stories.	Robertson's Selections....	Page 40 to 110.....	Page 50 to 100.
Grammar.....	Tandavary's Catechism of Tamil Grammar.....	Page 40 to 70.....	Page 30 to 60.
Prose translation of Epic Poems.	Sabhaparva of Mahabarat	Page 1 to 50.....	Page 1 to 40
	2d Class.		
Fables & Stories.	Robertson's Selections....	Page 1 to 40	Page 1 to 30.
Fables.....	Cadamanjari.....	Page 50 to 80.....	Page 40 to 80.
Prose translation of Epic Poems	Adventures of Nalachacravarti	Page 1 to 40.....	Page 1 to 30.
Moral Sentences.	Nitisarayvakyam.	Page 1 to 30.....	Page 1 to 20

Subjects.	Books	Portions read during the Year	Portions in which the Scholars were examined.
	3d Class.		
Prose translation of Epic Poems.	Adventures of Nalachacravarti	Page 1 to 40	Page 1 to 30
Moral Sentences.	Nitisarayvakyam	Page 1 to 20	Page 1 to 15.
Fables	Cadamanjari	Page 1 to 30	Page 1 to 25
	4th Class.		
Fables	Morris' Selections	Page 1 to 30	Page 1 to 20
Elementary Lessons	Elluttiyalvilakum	Page 1 to 6	Page 1 to 5.
	Telugoo, 1st Class.		
Grammar	Gooroomorty's Grammar	Page 1 to 84	Page 1 to 72.
Tales	Whistler's Arabian Nights	Page 1 to 300	Page 1 to 101
Fables	Punchatantra	Page 66 to 136	Page 66 to 123.
	2d Class.		
Grammar	Gooroomorty's Grammar	Page 1 to 47	Page 1 to 30.
Synonymes	Andhranama Sungraha	Page 1 to 25	Page 1 to 20.
Fables	Punchatantra	Page 1 to 66	Page 1 to 30
	3d Class.		
Grammar	Seetaram Sastry's Catechism of Telugoo Grammar	Page 1 to 24	Page 1 to 12.
Synonymes	Andhranama Sungraha	Page 1 to 14	Page 1 to 14.
Elementary Lessons	Balasischa	Page 1 to 84	Page 1 to 40
	4th Class.		
Vocabulary	Ramkistna Sastri's English and Telugoo Vocabulary	Page 21 to 35	Page 20 to 30.
Fables	Morris' Selections	Page 1 to 41	Page 1 to 20.
Elementary Lessons	Balasischa	Page 1 to 8	Page 1 to 8.
	Mahratta, 1st Class.		
History	Grant Duff's Mahratta History	Chapter 12 to 15	Chapter 12
Natural Theology	The Youth's Book on Natural Theology	The first conversation	The whole
Grammar	Balavykrana	The whole	The whole.
	Gungader's Grammar	Page 1 to 60.	
Moral Tales	Neetheedurpen	Select portions	Page 76 to 97.
	2d Class.		
Grammar	Balavykrana	The whole	The whole
Moral Tales	Balameethra	Page 1 to 60	Page 1 to 26.
	Æsop's Fables	Page 1 to 20.	
	Jagatheejotha	Page 1 to 20.	
	3d Class.		
Grammar	Balavykrana	Page 1 to 25	The whole.
Moral Tales	Balavykrana	Page 1 to 64	Page 1 to 16.
	Neetheedurpen	The whole	
	Neetheecutha	The whole	
	Bodhavachanum	The whole	
	Æsop's Fables	Page 1 to 20	

Subjects	Books	Portions read during the Year	Portions in which the Scholars were examined
	4th Class.		
Grammar..	Balavykraua.	Page 1 to 10.....	Page 1 to 5
Moral Tales.....	Bodhavachanum	Page 1 to 20.	
	Jagatheejotha..... ..	Page 1 to 13.....	Page 1 to 13.
	5th Class.		
Spelling Book...	Lipeedhara	The whole.	
Moral Tales.....	Jagatheejotha.	Page 1 to 20.	
Natural History..	Keethuca Innavarachin Vurnum.....	Page 1 to 10.....	Page 1 to 5.

APPENDIX B.

Papers of Questions proposed to the Scholars of the 4th Class.

4th Class, Upper Rank.—Milton.

1. State the chief characteristics of Milton's style. Had the times in which he lived any influence upon the development of his talents?

2. Explain the following passages.

"Come, but keep thy wonted state,
With even step, and musing gait;
And looks commercing with the skies,
Thy wrapt soul sitting in thine eyes."

"Sometimes let gorgeous tragedy
In sceptred pall come sweeping by,
Presenting Thebes or Pelops' line,
Or the state of Troy divine;
Or what, though rare, of later age
Ennobled hath the buskin'd stage."

What is opposed to buskin'd stage?

"Hide me from day's garish eye"

"Soft Lydian airs,
Married to immortal verse."

"The cynosure of neighbouring eyes."

3. Describe the nature of an Epic poem; and state briefly Milton's aim in "Paradise Lost."

4. To what are the spear and shield of Satan likened?

5. Explain the following passages.

"But these thoughts
Full counsel must mature; peace is despaired;
For who can think submission? war then, war,
Open or understood, must be resolved."

"When the sun with Taurus rides"

"Though his tongue
Dropp'd manna, and could make the worse appear
The better reason, to perplex and dash maturest counsels."

"To suffer, as to do,
Our strength is equal; nor the law unjust
That so ordains."

"Unessential night"

"A Universe of death, which God by curse created evil, for evil only good."

"Their fatal hands
No second stroke intend"

"Those other two equall'd with me in fate,
So were I equall'd with them in renown."

To what does Milton allude here in the first line?

6. Give a sketch of Milton's character, and quote any portions of his works you know, which will support your views.

4th Class, Upper Rank.—Shakspeare.

1. *Chatillon:*—Thus, after greeting, speaks the King of France,
In my behaviour, to the Majesty,
The borrowed Majesty of England here.

Explain "in my behaviour"—and "borrowed Majesty."

Who was the king of France? Had he previously mingled in the affairs of England?

Bastard.—For he is but a bastard to the time,
That doth not smack of observation.

Give the meaning of these lines. What is the character of Faulconbridge?

Constance.—He's not only plagued for her sin,
But God hath made her sin and her the plague
On the removed issue, plagued for her,
And with her plague, her sin; his injury
Her injury—the beadle to her sin.

Explain this fully and accurately. Mention what you know regarding the life of Constance, and the succession to Bretagne.

Constance.—O Lymoges! O Austria! thou dost share that bloody spoil.

What remarks have you to make upon this address?
Explain "bloody spoil."

Pandulph.—For that which thou hast sworn to do amiss,
Is not amiss when it is truly done;
And being not done where doing tends to ill,
The truth is then most done not doing it.

Explain this fully and clearly. What sort of language is put into the mouth of Pandulph, and why?

KING JOHN.

2. What lesson does Shakspeare teach us in the play of Hamlet?

Claudius.—The head is not more native to the heart,
The hand more instrumental to the mouth,
Than is the throne of Denmark to thy father.

Explain this passage; and give the characters of Polonius and Laertes.

What object has Hamlet in view when he causes a play to be performed before his uncle.

State your opinion regarding the extent of Gertrude's guilt, and support your views with quotations or references.

Hamlet.—Let it work;
For 'tis the sport, to have the engineer
Hoist with his own petard.

Explain this passage.

What reflections suggest themselves to Hamlet, when he learns that Fortinbras is marching against Poland, in order "to gain a little patch of ground, that hath in it no profit but the name?"

HAMLET.

3. Give the character of Richard III.

How does Gloster urge Edward against Clarence?

Gloster.—The world is grown so bad,
That wrens may prey where eagles dare not perch;
Since every jack became a gentleman,
There's many a gentle person made a jack.

To what does the speaker allude?

3d Citizen.—Better it were, they all came by his father,
Or, by his father there were none at all.

Explain this passage.

What was Queen Elizabeth before her marriage with Edward IV.? Does Shakspeare draw her character correctly?

4th Class, Upper Rank.—Political Economy and Norton's Rudimentals.

1. Describe the advantages that flow from the division of labour.
2. How is capital beneficial to a country?
3. What arts belong more particularly to old established countries?
4. What is the source of low interest?
5. How are wars affected by the use of paper money?
6. If the balance of trade were in favor of England, in her commerce with all other countries, what would be the consequence?
7. Explain the representative system of Government.
8. Sketch briefly the rise and progress of the British power in India.
9. What are the general functions of the Court of Directors, and the Board of Control?
10. Under what circumstances would despotism be the best form of Government?

4th Class, Upper Rank.—Arithmetic and Algebra.

1. In how many years will a sum of money treble itself at compound interest?

log. 3= ·4771213.
log. 1·045= ·0191163.

2. Insert six harmonic means between 1 and 20.
3. Extract the square root of 235 6 to two places of decimals.
4. The length of a room is 14 feet 3 inches, and the breadth 12 feet 8 inches; find the area by duodecimal multiplication, and define all the parts of the product.
5. *Expand* $\overline{ax-x^2}^{\frac{1}{2}}$ *to five terms.*
6. A person buys a certain number of oxen for 10£, and finds that if he had bought four fewer for the same money, they would have cost £1 a piece more: how many oxen did he buy? Explain the negative answer.

7. Thirteen persons take their seats at a round table by lot: find the probability that two particular persons do not occupy contiguous seats.

8. Solve the equation $x^{-1} + x^{-\frac{1}{2}} = 6$.

4th Class, Upper Rank.—Euclid.

1. Enunciate the 12th axiom, and the proposition which is its converse; also state your opinion regarding the propriety or impropriety of Euclid's assumption of the 12th axiom.

2. If 2 $\triangle$s have 2 sides of the one $=$ 2 sides of the other, each to each, but the $\angle$ contained by the 1st pair of sides $>$ the $\angle$ contained by the second pair; the base of that which has $> \angle$ shall be $>$ the base of the other.

In Euclid's demonstration, he assumes the side of the second $\triangle$, which belongs also to the $\triangle$ described in the construction of the proposition, to be $\angle$ the other side: prove the proposition making the opposite assumption, and explain clearly the difference between your proof and that of Euclid.

3. If a right line be bisected, and produced to any point, the square of the whole line thus produced, and the square of the part of it produced, are together double of the square of half the line bisected, and of the square of the line made up of the half and the part produced. Prove this proposition geometrically, and algebraically. Also mention a proposition in the 3d Book, in which it is used.

4. Describe upon a given right line, N P, a segment of a circle that shall contain an $\angle \doteq$ to a given rectilineal obtuse angle O.

5. The diameter of the earth is about 8,000 miles; supposing the eye of a man to be one mile above the earth's surface, what will be the extent of his horizon? Enunciate the proposition by which you solve the above question, and explain clearly how the horizon is fixed.

6. Describe a regular pentagon about a given circle.

7. Explain fully the difference between the geometrical and algebraical definitions of proportion. Are 2, 5, 7, and 10 in proportion? If not, show their non-proportionality both by Geometry and Algebra.

8 Equiangular $\square^{ms}$ have to each other the ratio which is com-

pounded of the ratios of their sides. Prove this, and explain the meaning of the phrase, "the ratios which, &c. —— sides."

9. If two right lines be cut by parallel planes, they shall be cut in the same ratio.

10. What is the difference between synthesis and analysis? Give an analytical proof of any easy proposition you please. When should synthesis be used, and when analysis?

4th Class, Upper Rank.—Bacon's Essays.

1. Describe the general character of Bacon's Essays.

2. Explain the following passages.

"Certainly great persons had need to borrow other men's opinions to think themselves happy; for if they judge by their own feeling they cannot find it."

"In counsel it is good to see dangers, and in execution not to see them, unless they be very great."

"It cometh many times to pass, that the work and carriage is worth more than the material, and enricheth a state more; as is notably seen in the low countrymen, who have the best mines above ground in the world."

"Dangers are no more light, if they once seem light."

"To choose time is to save time; and an unseasonable motion is but beating the air."

"The greatness of an estate, in bulk and territory, doth fall under measure; and the greatness of finances and revenue doth fall under computation."

"The honorablest part of talk is to give the occasion; and again to moderate and pass to somewhat else, for then a man leads the dance."

"A man that is young in years may be old in hours, if he have lost no time."

"Secrecy in suits is a great mean of obtaining; for voicing them to be in forwardness may discourage some sort of suitors; but doth quicken and awake others."

3. Why does Bacon call riches the baggage of virtue?

4th Class, Upper Rank.—Plane and Spherical Trigonometry.

1. What is the connecting link between the geometrical functions of an $\angle$? Express cosec a in terms of versed sine a.

2. The $\angle$ A is $>$ 90° and $<$ 180°, $<$ B is $<$ 90°, and $\angle$ $\overline{A-B}$ is $>$ 90°; find cos. $\overline{A-B}$, adapting your diagram to the data.

3. Given the values of sine $\overline{A+B}$ and cos. $\overline{A+B}$, find the value of tan 2 A in terms of functions of A.

4. What fact relating to geometrical functions gives rise to "the ambiguous case" of triangles? In the $\triangle$ A B C, where C=30°, B=16 feet, and C=8 feet, is there any ambiguity?

5. An object 6 yards high, standing at the top of a tower, subtends an $<$ tan $-^{1}$·015 at a station which is 100 yards from the base. Find the height of the tower.

6. What are polar and primitive $\triangle$s?

7. Find the limits of the sum of the $<$s of a spherical $\triangle$.

8. Enunciate and explain Napier's rules. If the sun's AR and D be known, show how to find the obliquity of the ecliptic by Napier's rules.

9. Explain clearly how a spherical $\triangle$ is formed, and what are represented by its sides and $<$s.

4th Class, Upper Rank.—English History.

1. Mention the principal events in the reign of William the Conqueror.

2. What were the Doomsday book and the Curfew bell?

3. Give a sketch of the Feudal system.

4. What is meant by the Magna Charta?

5. Who first bestowed the title of "Prince of Wales" upon his eldest son?

6. In whose person were the houses of York and Lancaster united, and what were the leading events of his reign?

7. In what light was Queen Elizabeth regarded by the Dutch, and the Protestant Princes of Germany?

8. Sketch the position of Scotland with reference to England from the earliest times up to the union.

9. Mention those events which, in your opinion, were most effective in raising England to her present pitch of power.

10. Give the dates of the following events. The invasion of the Norman Conquest, the grant of the Magna Charta, the battle of Bannockburn, the attempt at invasion by the Spanish Armada, the death of Cromwell, the union of England and Scotland, the American Revolution, the battle of Waterloo, and the passing of the Reform Bill.

4th Class, Upper Rank.—Geography.

1. Mention the principal islands, straits, and peninsulas in Asia.

2. Describe the courses of the following rivers. The Danube, Guadiana, Vistula, Tay, Boyne, Rhine, Tigris, Jumna, Godavery, Mississippi, and Amazon.

3. Mention the chief groups of islands in the Pacific Ocean and their position.

4. Name the principal countries in America, and describe the localities of their Capitals.

5. Rank the different states of Europe according to their importance, and name the principal commercial towns in each of the maritime states.

4th Class, Upper Rank.—Natural Philosophy.

1. If two forces acting perpendicularly at the extremities of the arms of a straight lever balance each other, they are inversely as the arms. Prove this, and state the inverse proposition.

2. Define the centre of gravity of a body; and find the centre of gravity of a triangle.

3. Define specific gravity; and explain how the specific gravity of a solid heavier than water is found by the hydrostatic balance.

4. Show how to graduate a common thermometer.

5. Distinguish between caloric, and heat, and between free caloric and latent caloric.

6. What is the use of clothes in a cold country?

7. What are the three different forms of matter?

8. Mention the principal properties and uses of oxygen.

9. State the principal laws that prevail in Chemistry.

10. Describe briefly the nature of a Voltaic battery, and the chief decompositions it effects.

11. What are precession and nutation?

12. What are the three instruments that are essentially requisite for an Astronomical Observatory? Also mention the objects to which they are applied.

Selections from the Answers of the Scholars of the Upper 4th Class.

1. In the first place, Milton's style is characterised by a luxuriancy of imagination, and a loftiness of thought, that is scarcely paralleled in the annals of Poetry. Homer and Virgil, it is true, have their merits, but they can boast only of single excellencies; whereas in Milton, we have them united.

> "The first in loftiness of thought surpast,
> The next in majesty; in both, the last."

Density and classickness are other striking points in the style of Milton: his discretion in the choice of his words is so great, that a single adjective is made to convey a whole world of images. The inverted manner of his style gives it an air of lofty grandeur, suited to the nature of the subject. In Milton, we find sometimes whole phrases that are translations of Latin idioms—a circumstance rarely met with in other poets. Force of conception can no where be found so strong as in the poems of Milton.

The troublous age in which Milton lived had a powerful influence in developing his talents. Milton naturally took a part in the contentions of the age in which he lived; and they tended to elicit his talents and genius. His position in life was such as afforded him frequent opportunities to look beyond the horizon which would be prescribed to a private individual.

4. Milton likens the spear of Satan to a tall fir tree, hewn on Norwegian hills intended to be the mast of some great admiral. The shield he compares to the moon's disk, as magnified by the "optic glass of the Tuscan artist."

5. "These thoughts must be ripened by a full consultation ere they can be put into action—peace is hopeless; for who is there among us so servile as to think of submission? War alone, whether open or secret, must be resolved upon."

"When the sun is in Taurus."

"Though his words were as sweet as manna and could pervert

things so as to make the worse reason appear the better, for perplexing and breaking even the most mature counsels."

"We are made equally capable of acting and of suffering—nor are we to blame the law that has so ordained."

Night that is unessential or without substance.

A world of death, which was created evil by the curse of God;—a region just fit for evil.

One stroke of their hands, is sufficient for annihilation.

In these lines Milton wishes to gain that renown which those two have gained whose fates have been similar to his. Here Milton alludes to Homer and another ancient poet, who were, like him, blind.

A. SASHIAH.

Shakspeare.

In the play of Hamlet, Shakspeare teaches us not to undertake enterprizes that are beyond our capacities; and that, if they become incumbent, we should execute them with resolution, and manliness. In the fate of Hamlet, we see what evils await the steps of the wavering philosophic character, who is devoid of that steadiness of resolution and that energy of action, which alone constitute the hero. Shakspeare warns us not to lose ourselves in excessive thinking—in these beautiful lines—

> Thus the native hue of resolution,
> Is sicklied o'er with the pale cast of thought,
> And enterprizes of great pith and moment,
> With this regard their current turn awry
> And lose the name of action.

In these lines, Claudius says to Laertes, that he is as sincere towards Laertes' father as the mind is to the heart; and as yielding or serviceable to him as the hand is to the mouth——Polonius is the

remains of a politician,—and possesses a deep insight into human nature. His advice to his son Laertes is full of the dictates of prudence and experience; and his directions for finding out the character of his son Laertes in France, show his knowledge of man. He possessed, in an eminent degree, all the foibles natural to old age. He wishes to be all in all—and plays the Sir Oracle in every subject he comes across—in consequence of this, he becomes a fit laughing stock at the hands of Hamlet, who calls him a " tedious old fool"—Polonius was, moreover, skilled in court stratagems ; in his counsels to Claudius, he would ever be in the right—he was in fact such a man as Johnson would style

" Perversely grave or positively wrong." In pursuing one of his strokes of policy, the worn-out minister falls a prey to his meddling disposition; and learns, when it is too late, how dangerous it is to " come between the fell-incensed points of mighty opposites."

Laertes does not appear much in the play of Hamlet; in consequence of which his character is very brief. He is a generous youth, possessing all the accomplishments required for a young man of that age. His affection for his father and sister, stands uppermost in his mind. He is naturally driven to revenge upon the murderer of his father. In his excess of grief and revenge, he listens to the ignoble proposal of Claudius—this is the only stain in his character—a stain that is almost hidden behind his virtues.

Hamlet's object in causing a play to be acted before his uncle, is to procure an indirect confession of his guilt, by bringing before him a murder similar to that which Claudius had committed.

Gertrude does not appear to have participated in the crime of Claudius—as is evident from her surprise and confusion at the sudden accusation of Hamlet.

Let it work—for we will have good sport to see the originator of the scheme fall a prey to it in the course of its execution—like an unskilful Gunner, to his own shells.

Hamlet is led by this event to reflect upon the influence which honour has upon mankind. He sees that a whole army is marching to battle for a spot that is so insignificant as not to afford even sufficient room for them to fight; and concludes that his case possesses a stronger cause for vengeance than theirs. He is thus awakened to vengeance.

A. SASHIAH.

Political Economy and Norton's Rudimentals.

1. The advantages that flow from the division of labour are both manifold and substantial: in the present enlightened countries of Europe, the principle of the division of labour has been so fully developed that the comforts of civilized life are enjoyed by every class of the community. Now-a-days there is scarcely a manufacture or commodity to be found in the more advanced countries, that is not the produce of the united labour of many—from the delicate pin to the gigantic steam engine, there is not perhaps one article of man's handiwork that does not owe its existence to the attention and labour of hundreds and thousands. It is the division of labour that stands at the source of all the miracles of human workmanship. The pin, insignificant as it is, cannot be manufactured to that delicacy and extent which it is now made to possess, without the division of labour. It would be beyond the most skilful artizan to make more than 20 pins a day—but with the union of many hands, more than forty thousand pins are manufactured in the space of twenty-four hours. In the division of labour, time is saved, *i. e.* the work is expedited; every part of the work is executed with care and attention; and consequently the number of articles manufactured is increased to any extent, with their quality being neglected. To conclude, modern civilization may be said to owe many of its blessings to the division of labour.

7. The representative system is one which is calculated best to promote the happiness of the people, which is the end of all Political Government. That the governed ought to have a share in their Government is a position, the justice of which is almost axiomatic, and the reasons for which are equally obvious. But it has been a most perplexing problem in Political Science to devise the means whereby the people may be enabled to have a voice in their administration.

However it has been solved successfully in the case of England. The chief features of the representative system are the following; such of the people are allowed the privilege of electing representatives as are possessed of a fixed habitation and a certain amount of property. There are likewise certain qualifications required of the representatives to ensure their respectability and honesty in minding the happiness of those they represent. As wealth generally creates a spirit of independence, that has been chosen as a standard qualification for the representatives. These representatives alone have the power of granting subsidies to the monarch to carry on wars, and so they exercise a direct influence against all arbitrary proceedings and useless expenditure of the nation's wealth; and this is the most useful of all the blessings the representative system confers upon us. The representatives if they do not act according to the sentiments of the people, are liable to be removed from their offices the next election; and this feature of the representative Government removes the fear of the people's falling from the hands of one tyrant into those of a hundred.

A. SASHIAH.

Arithmetic and Algebra.

1. From the nature and principles of compound interest we see that the amount of any sum at the end of a certain number of years is the product of the principal and the amount of one of that species of money for one year raised to the power of the time given. Accordingly supposing p to be the principal, r the rate per cent. per annum, and t the time, we have $p\left(1+\frac{r}{100}\right)^t$ expressing the amount of p at the end of t years and this according to the question is equal to three times the principal

$$\therefore p\left(1+\frac{r}{100}\right)^t = 3\,p$$

dividing the $= n$ by p we have $\left(1+\frac{r}{100}\right)^t = 3$

and $1+\frac{r}{100} = 1{\cdot}045$

$$(1{\cdot}045)^t = 3$$

$$t \log.(1{\cdot}045) = \log.\ 3$$

$\therefore t = \frac{\text{Log } 3}{\text{Log } (1{\cdot}045)} = \frac{4771213}{0191163} = \text{yrs } 24\ \text{m } 11$ &c. This is the time in which a sum of money will treble itself at compound interest.

4.

ft.	*in.*
14	3
12	8
9	6 0
171	0

sq. feet.	pt. of sq. foot.	sq. in.
180	6	0

In this answer the 180 are square feet. Now if we divide a square foot into 12 equal parts each a foot in length and one inch in breadth, the 6 in the answer means 6 parts of these 12, and the last term is the number of square inches.

8.

$$x^{-1} + x^{-\frac{1}{2}} = 6$$

$$\frac{1}{x} + \frac{1}{x^{\frac{1}{2}}} = 6$$

$$\frac{1}{x} + \sqrt{\frac{1}{x}} = 6$$

$$\sqrt{\frac{1}{x}} = 6 - \frac{1}{x}$$

$$\frac{1}{x} = 36 - \frac{12}{x} + \frac{}{x^2}$$

$$-\frac{1}{x^2} + \frac{13}{x} = 36$$

$$\frac{1}{x^2} - \frac{13}{x} = -36$$

$$\frac{1}{x^2} - \frac{13}{x} + \frac{169}{4} = -36 + \frac{169}{4} = \frac{169}{4} - \frac{144}{4} = \frac{25}{4}$$

$$\frac{1}{x} - \frac{13}{2} = \pm\sqrt{\frac{25}{4}} = \pm\frac{5}{2}$$

$$\frac{1}{x} = \pm\frac{5}{2} + \frac{13}{2}$$

V. Ramanoojum.

Euclid.

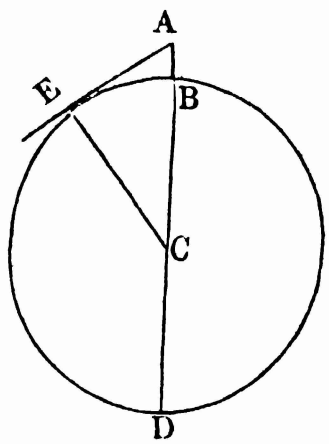
1. The 12th axiom is that if a right line falls upon two right lines and make the interior angles upon the same side of the falling line taken together less than two right angles then these right lines

being continually produced shall at length meet upon that side on which are the angles that are less than two right angles.

The converse of this axiom is that any two angles of a triangle are together less than two right angles.

The meaning of the word axiom being an evident truth this axiom as Euclid calls it is not totally of such a character. Moreover there are some propositions in Euclid that are simpler than this axiom and which have as much or even more right to be considered axioms than this. This deserves to be ranked among the propositions of Euclid for it is not like the other axioms.

5. In this figure C B D is the earth, B D its diameter which is 8,000 miles, A B the altitude of the eye of the person above the surface of the earth, and A E is a tangent to the circumference of the earth drawn from the point A. We have got to find the length of A E. Now according to a proposition of the 3d book



$$AD \times AB = AE^2$$
$$i.\ e.\ 8001 \times 1 = AE^2$$
$$\sqrt{8001} = AE$$

AE=89 miles nearly—This is the radius of the horizon of the person.

The proposition of the third book according to which this is done is—if from a point without a circle there be drawn two right lines one cutting the circle and the other touching it the square of the latter line is equal to the rectangle contained by the whole cutting line and the part of it without the circle.

The horizon being the line that bounds our view and since the earth is round the horizon must be a circle and the radius of this circle must be the line supposed to be drawn from our eye to touch the surface of the earth.

V. Ramanoojum.

---

4. The fact of the sine of an angle being equal to the sine of its supplement gives rise to "the ambiguous case" of triangles. In the

given triangle there is ambiguity for the side opposite to the given angle is less than the other given side—and consequently the angle B has two values—and we do not know which of them we are to take.

7. Since according to Euclid the limit of the angle of inclination between the planes that form the solid angle is 180° therefore the angle of a spherical triangle must be less than two right angles. Therefore the sum of the three angles of a spherical triangle must be less than 6 right angles. We know that the sum of the sides of a spherical triangle is less than 2π; therefore

$a' + b' + c' \angle 2\pi$ now according to a property of the polar triangles

$\pi - A + \pi - B + \pi - C \angle 2\pi$

$3\pi - A + B + C \angle 2\pi$. Here we find that the difference between 3π and $A\ B + C$ is $\angle 2\pi$. Now if $A\ B + C$ were less than π the difference between this and 3π would be $> 2\pi$ but this cannot be the case because the difference—we know is $\angle 2\pi$. Again $A + B + C$ cannot be equal to π for the difference will then be equal to 2π. Therefore $A + B + C$ must be $> \pi$. Therefore the limits are $> \pi$ and 3π.

V. Ramanoojum.

4th Class, Lower Rank.—Chemistry.

1. Describe the nature and objects of the science of Chemistry, and mention a few of its leading principles.

2. What natural arrangements of non-conductors of heat eminently display God's wisdom?

3. Explain, as briefly as possible, the principle of the Steam-Engine.

4. What is combustion, and how is the process accelerated?

5. How do you account for the explosion of gunpowder?

6. Describe a galvanic battery, and mention the principal decompositions which it effects.

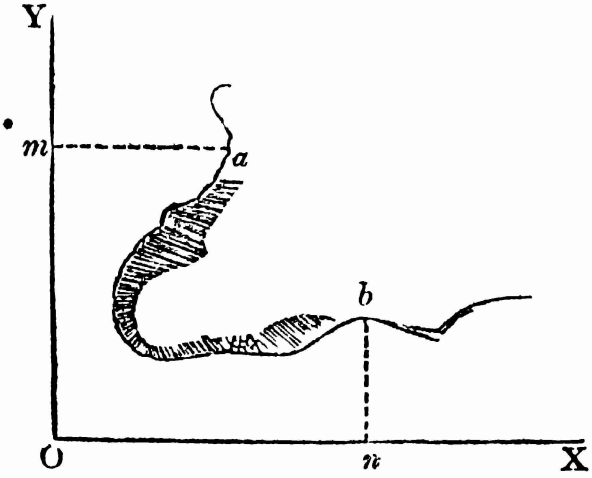
7. What are chalk and marble composed of, and wherein does their difference lie?

8. Explain the constitution of ink?

9. What remarkable property does fluoric acid possess?

10. How is the soil supplied with potash and the requisite salts?

4th Class, Lower Rank.—Conic Sections.



1. I propose to erect a bridge between the stations a and b; having no means for finding the distance between them, I assumed a point O and measured the rectangular coordinates from a, on O X and O Y, which were X and Y or 147 and 337 yards respectively, and those from b on the same, which were x' and y', or 518 and 242 yards respectively :—required the distance from a to b, expressed in figures as well as symbols.

2. Required the equation to a line, which passes through two given points.

3. Required the equation to a line which passes through a given point, perpendicular to a given straight line.

4. To find the length of the perpendicular let fall from a given point upon a given straight line.

5. Required the equation to the circle referred to rectangular coordinates, some point either within or without the circle being assumed as the origin.

6. Required the polar equation to the circle.

7. In the common parabola, the sub-tangent bears a constant ratio to the abscissa, what is that ratio?

8. In the parabola—what relation exists between the sub-normal —and the latus rectum?

9. In the ellipse prove that the rectangle contained by the segments of the major axis is to the square of the ordinate as the square of the semi-major axis is to the square of the semi-minor axis.

10. If the foci of an ellipse be brought infinitely near to one another, the ellipse becomes a circle :—deduce the equation of the latter from that of the former.

11. Find the polar equation to the parabola, the focus being the pole.

12. If the major axis of an ellipse be infinitely great in respect to

the minor axis, the ellipse passes into a parabola, deduce the equation of the parabola from that of the ellipse under these circumstances.

4th Class, Lower Rank.—Euclid and Algebra.

1. Define the following solids; cube, dodecahedron, and icosahedron.

2. State the steps in the following proposition; if two right lines be parallel, and one of them is at right angles to a plane, the other shall also be at right angles to the same plane.

3. Give a popular explanation of the 21st proposition of the 11th Book; and compare the methods of measuring plane and solid angles.

4. Find the greatest common measure of $x^4 - 8x^3 + 21x^2\ 20x + 4$ and $2x^3 - 12x^2 + 21x - 10$.

5. Divide the number 36 into three parts, such that $\frac{1}{2}$ of the first, $\frac{1}{3}$ of the second, and $\frac{1}{4}$ of the third, may be all equal to one another.

6. Log. 2 = ·3010300; find log. ·0125.

7. The sum of two numbers is 8, and the sum of their cubes is 152; what are the numbers?

8. Solve the equations $x^3 + 6x = 2$.

9. Find all the positive integral solutions of the equation $11x + 15y = 1031$.

4th Class, Lower Rank.—Calcutta Prose Reader No. 6.

1. State generally the advantages that flow from the cultivation of the Physical Sciences.

2. In what light are we to view the Mathematical Sciences when referred to Physics?

3. Distinguish between instinct and reason: and explain the remarkable development of the former in the construction of the cells of bees.

4. Why do we not see the sun and the other heavenly bodies in their true positions at a given time?

5. Describe a Camera Obscura.

6. Explain the condition of a charged Leyden jar.

7. The mercury in a barometer falls just before a storm; what does this teach us regarding the state of the atmosphere at that time?

8. Explain clearly the way in which Jupiter's moons are eclipsed, and draw a diagram for illustration Of what use are the eclipses?

4th Class, Lower Rank.—English Poetry.

Q. 1. Explain the following passages.

1. The breezy call of incense breathing morn,
   No more shall wake them from their lowly bed.

2. Fair Science frown'd not on his humble birth,
   And melancholy mark'd him for her own.

3. And every pang that folly pays to pride.

4. Well had the boding tremblers learn'd to trace,
   The day's disasters in his morning face.

5. The host himself no longer shall be found,
   Careful to see the mantling bliss go round.

6. Where'er I roam, whatever realms to see,
   My heart untravell'd fondly turns to thee:
   Still to my brother turns with ceaseless pain
   And drags at each remove a lengthening chain.

7. They please, are pleas'd, they give to get esteem;
   Till, seeming blest they grow to what they seem.

Q. 2. What serves to connect the different portions of Goldsmith's Traveller and what conclusion is reached at the end of the poem?

Q. 3. What are the characteristic marks of Goldsmith's poetry?

Q. 4. What lesson is intended to be conveyed in the "deserted village?"

Selections from the Answers of the Scholars of the Lower 4th Class.

Chemistry.

1. Chemistry is the science which treats of the intimate nature of substances, and their action upon one another.

It is hardly in our power to mention the various uses to which this science is applied, nor is it within the circle of any man's power

to embrace it in its full extent. The investigation of this science presents a vast number of experiments, in which the untutored, unenquiring and unreflecting mind perceives neither novelty nor beauty.

Besides its great efficacy in agriculture, this science assists us in Pharmacy, or the science of medicine, and is applied in a greater or less degree, in almost all the manufactures, such as, in refining sugar, in bleaching, in making gunpowder, and various other purposes, which it is beyond the limits of this short sketch to mention.

Some of the leading principles of this science are the following. Heat dilates bodies and tends to diffuse itself equally throughout substances, when a body changes from a solid to a liquid or from a liquid to an æriform state, heat is absorbed; and when the contrary effect takes place, caloric is evolved. The properties which characterize bodies when separate are altered or destroyed by their combination. Bodies combine with each other in definite proportions. Chemical attraction takes between the minutest particles of substances. Bodies have among themselves different degrees of attraction.

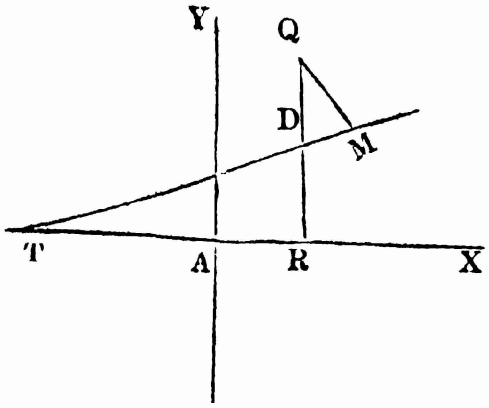
2. The ocean and the atmosphere display the wisdom of the deity in an excellent degree. Were it not for the non-conducting power of water, the whole of the ocean would be frozen, which would, indeed be a prejudicial circumstance to living animals. But since it possesses this power, the water below a few feet from the surface is kept warm, while that at the surface only is frozen. Equally beneficial to us is the non-conducting power of the atmosphere, inasmuch as it prevents our being scorched by the immense heat of the sun.

10. Mountains being composed chiefly of granite, which contains potash and other salts requisite for the soil, these substances are washed down from these mountains by the action of the air and the waters of rivers. These rivers by their inundation deposit the potash and other salts upon the surface of the earth.

G. RAJAHGOPAUL.

Conic Sections.

4. Let the given point be 2 and the line given be M T. Now sine Q D M$=\frac{\text{Q M.}}{\text{Q D.}}$



$\therefore$ Q M $=$ Q D sine Q D M.

but Q D $=$ Q R $-$ D R that is

$= y' - ax' - b$ — for DR $= ax' + b$

and sine Q D M $=$ sine T D R

$=$ Cos D T R

$= \frac{1}{\sec \text{D T R}}$

$= \frac{1}{\sqrt{1+a^2}}$

$\therefore$ substituting the values in the eqn. we get

$$\text{Q M} = (y' - ax' - b)\ \frac{1}{\sqrt{1+a^2}}$$ which is the eqn. required.

T. VENCATACHARRY.

---

8. The subtangent is equal to half the latus rectum.

12. The equation to an ellipse when the axes originate at the vertex

$$y^2 = \frac{b^2}{a^2}\,(2\,ax - x^2)$$

$$= \frac{2\,b^2\,x}{a} - \frac{b^2}{a^2}\,x^2$$

$$\text{but } b^2 = a^2 - a^2\,e^2 = (a + a\,e)\ (a - a\,e)$$

$$= (a + ae)\ m = a\ (1 + e)m$$

$$\therefore \frac{b^2}{a} = (1 + e)m$$

$$\therefore\ y^2 = 2\,(1 + e)\,x\,m - (1 - e^2)\,x^2$$

$$\because\ a = \frac{m}{1 - e}\ \therefore\ 1 - e = o,\ \therefore e = 1$$

substituting this value of e in the above equation the term $(1-e)^2 x^2$ vanishes and we have $y^2 = 4\ m\ x$, which is the equation to a parabola.

G. RAJAHGOPAUL.

Euclid and Algebra.

5. Let x, y, z be the numbers

Then by the question

$$x + y + z = 36$$

$$\tfrac{1}{2}\,x = \tfrac{1}{3}\,y\ \therefore\ x = \tfrac{2}{3}\,y.$$

$$\tfrac{1}{3}\,y = \tfrac{1}{4}\,z\ \therefore\ z = \tfrac{4}{3}\,y$$

$\therefore \frac{4}{3}y + y + \frac{2}{3}y = 36$

$\therefore 3y = 36$

$\therefore y = 12$

$\therefore x = \frac{2}{3} \times 12 = \frac{24}{3} = 8$

$\therefore z = \frac{4}{3} \times 12 = \frac{48}{3} = 16.$

$\therefore$ The three parts of 36 are 12, 8, 16.

7. Let x and y be the two numbers.

Then by the question

$$x + y = 8$$

$$x^3 + y^3 = 152$$

$$(8-y)^3 + y^3 = 152$$

$$\because x = 8 - y$$

$$y^3 + 8^3 - 192\,y + 24\,y^2 - y^3 = 152$$

$$24\,y^2 - 192\,y = 152 - 8^3 = 152 - 512 = -360$$

$$\therefore y^2 - 8\,y = -\frac{360}{24} = -15$$

$$y^2 - 8\,y + 16 = -15 + 16 = 1$$

$$y - 4 = \pm\sqrt{1} = \pm 1$$

$$y = \pm 1 + 4 = 5 \text{ or } 3$$

$$\therefore x = 8 - y$$

$$= 8 - 5 \text{ or } 3$$

$$= 3 \text{ or } 5$$

Therefore when $x = 5$, y 3 or when $x = 3$ $y = 5$.

W. SASHACHELLUM.

Calcutta Reader No. VI.

1. The advantages that flow from the cultivation of the physical sciences may all be classed under some one or other of the following general heads: First, it prevents us from attempting impossibilities; Secondly, it secures us from falling into serious mistakes, by endeavouring to perform what is in itself possible, by means quite inadequate to, and sometimes inconsistent with our object; Thirdly, the important benefits that accrue to us by its enabling us to accomplish our objects in the shortest, the easiest, and the most economical manner; Fourthly, we can avoid by it many dangers and accidents, to

which we would otherwise be subject; And Lastly, it opens to us inexhaustible sources of the purest intellectual pleasure, in the beauties and wonders of the Creation, which teach us an humility of pretension and a reverence for the Almighty, by disclosing the infinite powers of God and our own comparative insignificance.

2. The mathematical sciences, when viewed in reference to physics, are to be considered as the mere instruments by which, the laws of the latter are discovered and established from facts collected by experiment.

5. The Camera Obscura is an instrument by which the images of external objects are depicted upon a white surface placed in the instrument in their true form, shape, and color. This is effected by a lens, which converges the rays of light proceeding from the objects and brings them to a focus upon the white surface.

C. RUNGACHARRY.

Political Economy.

Before entering into a detail of the advantages of this science, it seems necessary to say a few words regarding its nature and object as that will enable us to form a correct idea of the subject under consideration. Political Economy is the science, which treats of the nature, the production, the distribution, and the consumption of wealth; of the causes which tend to its increase or diminution; and of its influence on the happiness or misery of a people. The nature of its connection with the best interests of mankind is such, as to give it a claim to the first rank in the list of useful sciences. It is incumbent on every member of society to acquire some knowledge or other of this subject; for although such a knowledge is of greater importance to some than to others, as is evident in the case of Merchants and Legislators, yet, there is no class persons, whatever their rank and position in the scale of life may be, to whom it can be esteemed altogether superficial. The understanding of the distances and motions of the heavenly bodies, and of the construction of mechanical engines may be a waste of time with those whose life is for the most part occupied in providing for their wants. But that can never be the case with regard to the acquisition of a knowledge of the principles of Political Economy, which teaches us to be frugal and provident, and chases out of our mind all the malignant passions. It is curious to reflect, that so important and useful a science should,

up to the last century, be left wholly uncultivated and be even stigmatised as the depraver of the morals of mankind. But when we come to a closer examination of the matter, we shall find that this censure thrown against it far from being ungrounded and casual as it at first sight appeared to be, was the result of various circumstances, which co-operated to its downfall. The priests, who possessed the greatest share of power in former times, and who in order to secure it were obliged to lead an austere and pious life quite inconsistent with a love of riches, very naturally envied what they did not possess, and established it as a doctrine, that love of wealth is the source of all crimes. The innumerable instances, of heinous crimes, which had been recourse to for the acquisition of wealth, and of the detestable ways in which that ill gotten wealth was wasted, also tended to enforce this idea, and to impress it upon the minds of the people. But away with such an erroneous idea. The fault was not in the wealth, but in the mode in which it was acquired. It is not the wealth, acquired by rapine and plunder or treachery, which tends to cultivate our faculties, elevate and soften our feelings and improve our minds; but that produced, by the gradual and durable development of the natural resources of a country, and that too without any detriment and rather to the benefit of others. We are induced to be frugal in their expenditure, and regard with esteem the riches, to the production of which, we have devoted a great portion of our time and labour.

Hence the advantages of Political Economy, that it teaches us that our wealth and property depend not upon the poverty and depression of others, but upon their industry and opulence; that the best mode of promoting education and civilization in countries is by establishing a free system of commerce between nations, which can bind them together by the strongest of all ties, namely, a desire to gratify our self interest; and that we should be frugal and provident in our domestic affairs.

C. RUNGACHARRY.

Lord Elphinstone's Prize Essay.

"WHAT IS CIVILIZATION?"

Introduction.

Man is a being ennobled with the attributes of understanding and reason, and pre-eminently placed above all the brute creation around him. The Almighty Creator

has assigned him a degree of independence adequate to his dignity, while He has placed the rest of His creatures within certain fixed spheres, beyond which it is impossible for them to move. When God created him and the brute, He seems to have given to the former this stern dictate—"Ask and it will be given;—seek and you will find;—knock and it shall be opened to you." And with a liberal hand bestowed upon the latter every means of safety and every provision for their comfort. This essential peculiarity in the constitution of man renders him an eminently progressive being—a being that has to search his way through toils and difficulties without number; and whose horizon of happiness increases only with a corresponding augmentation of his industry and perseverance. In the state of the savage, those gifts—those resplendant faculties, with which he has been dignified by his Creator, seem to linger in a lethargic slumber—the stupendous intellectual machinery which distinguishes him from the rest of animated objects, lies silent almost in a death-like sleep. His external condition too is marked with peculiar difficulties:—exposed naked at the inclemencies of seasons and the vicissitudes of climates;—circumscribed to his haunts by the fear of the more cruel and stronger denizens of this globe, man alone of all beings would seem to be forlorn amidst this vast creation—a miserable exile sent adrift on this wide world, and beset with difficulties many of which are of the most appalling kind. Even those objects which were ultimately to prove the very elements of his happiness, which were to supply his necessities, pamper his luxury, or amuse him in his idle hours, tend to heighten the misery of his condition. The ferocious beasts of the forest that prowl round his hut, keep him in continual apprehension of danger;—the ocean chills him with terror by presenting the ghastly appearance of an insurmountable barrier,—the phenomena of storms, lightning, and tornadoes, rivet him to his home. But let us turn from this picture, and behold him on the pinnacle of glory!—lord over this creation! at his nod, the brute creation trembles from the smallest animal to the majestic sovereign of beasts—terrific Neptune has been overcome, and his boisterous realms confiscated and turned into high roads for man's communication! with talismanic power, he calls down at his pleasure the fiery volume that darts across the sky to afford him philosophic amusement! while tempests and hurricanes roar around him, he sits down indifferent to the raving elements, and confident of his own power, in full-blown majesty, defies the shock! Here arises a question, the most natural, the most interesting, and the most important of any that can en-

gage our attention :—' what has armed man, who was so frail a being at first, with the gigantic power so thoroughly to subdue nature, and so completely to alter the face of the earth? who broke the spell, which ignorance seems to have placed on man's career, in the early stages of his existence? What is the amulet under whose magic influence he has acquired aud maintains the control over this world?' The answer to this query directly brings us in contact with the subject under our consideration: —for the light of civilization stands at the source of all these wonderful achievements of man. Civilization in the proper sense of the word is that gradual process by which man is humanized and reclaimed from that savage state which I have attempted to pourtray; by which he is led to understand the real nature of his position on this earth, and his relation to a world to come. Taken, in this sense, civilization is such an extensive subject that it is almost impossible to deal out to it the full measure of justice which is due to its importance. We shall, however, take a limited view of the question, and consider only the constituents of civilization which are Education, Religion, Literature, Government, Intercourse, Science; and content ourselves with cursory reviews of each of those subjects-their mutual bearings—and their influence on the happiness of the human species. Foremost of them all, stands Education.

Education.

Though God has bestowed upon man, reason and other faculties, they would be of no much avail to him were not an extraneous human exertion applied to develop them—without which, the mind with all its noble qualities would be little more serviceable than a marble in the quarry, possessing all the pleasing variety of colours. The human mind, when left to itself, has a pernicious tendency to run to ruin by the overgrowth of the passions, and the suppression of the virtues;—like an uncultivated garden, that grows rank and wild through the untamed luxuriancy of a useless vegetation. The passions when they are not checked at an early season of life, soon assume a dictatorial authority over our mind, and exercise an influence, which blights all intellectual advancement; or, to use the elegant lines of Beattie,

——— —" The mind untaught
Is a dark waste, where friends and tempests howl."

It is the object of education to counteract such a tendency, and make the better part of our nature gain the ascendency over the worse—to prepare the mind for the reception of truth and the investigation of facts, and to paint upon the infant mind the amiableness

of virtue and remove the ferocity of passion. The immediate means whereby Education ensures to us these essential benefits is Religion: It inculcates a belief in the existence of a Great Author, who superintends all our movements and to whom we are responsible for all our actions. It creates in us a thirst after nobler and higher blessings which await the virtuous soul in a world to come. By infusing into us a reverential dread of an ever-watchful Judge, it serves us a check upon our conduct and exercises a subduing yet salutary influence on our mind. Of the importance of Education in the development of the intellectual faculties, we can very safely assert that it has raised man from the feeblest of beings to be the mightiest amidst creation—which has torn off the veil of ignorance which enshrouded him in the first stages of his existence, and clothed him with a garb of transcendant and almost angelic glory. By means of Education, man is enabled to profit by the experience of past ages—the dead are thereby made the instructors of the living—the follies and excesses of the former are made to serve as beacons to warn the living, off the dangerous shores of vice and passion. This fact renders it one of the lines of demarcation between savage and civilized life. The want of a receptacle wherein the experience of past times can be stored so as to become a valuable treasure for times to come, caused the knowledge acquired by one, to be wasted as soon as his existence closes. Whereas, in a civilized condition, man can transmit the results of his experience to posterity through the medium of Literature, and so make them useful subjects of Education. Here we are put in mind of the manifold advantages of Literature, and we shall immediately proceed to mention some of the principal, as we have considered Literature one of the constituents of civilization.

Religion.

Literature.

Being in fact the grand reservoir in which are collected all the past experience of man, all the sublime truths revealed to us by natural philosophy, all the noble dictates of religion, and all that man has been able to discover, regarding the mysterious agent which we call the mind. Literature cannot but have a mighty influence on his progressive advancement and welfare. If it were not for Literature, we would remain in utter ignorance of the past, devoid of the results of our ancestors' experience, which form our present unerring guide. It is to Literature, that those nations of antiquity who acted a prominent part on the stage of this world, owe their renown. "A people," says Schlegel, "whose days of glory and renown have been celebrated by the pen

of a Livy, whose misfortunes and decline have been bequeathed to posterity in the pages of a Tacitus, stand proudly pre-eminent, and are in no danger of ever sinking with the common mass into the gulf of a nameless oblivion. It is the power of Literature that forms the communion between the past, the present, and the future, and will stamp the character of the present day on ages yet to come." History which is by far the most valuable part of Literature is a store of wisdom, useful to man in every condition of life. It teaches subjects how to behave towards their Sovereign, and Monarchs how to rule their subjects, legislators, statesmen, warriors, all alike can adopt rules of conduct from the illustrious dead of their profession. The extent of the Literature of a country may always be taken as a test of its civilization; according to this we will find India to stand unrivalled among ancient civilized nations, and that Greece and Rome claim as much attention almost as India. But unfortunately the "ocean of Indian Literature" consists chiefly of metaphysical disquisitions and works of imagination;—in it there is little of that manly feeling, that reckless spirit of independence, that display of heroic valour in the cause of patriotism and liberty, which are to be found in every page of European History and European Literature. Look, how the youthful bosom beats high when the poet of the west paints and perpetuates the achievements of noble patriots like Tell, Washington, and Kosciuzco! how our heart burns when we see battles depicted before us! how our energies are roused when we see the exploits of our ancestors recorded in the glowing colours of poetry! The extent and superiority of the Literature of modern Europe, can, however, be chiefly ascribed to the invention of Printing, which produced a complete change in the aspect of Europe. It has brought into existence thousands of records which were mouldering to dust in monasteries, and has thrown so blazing a light upon the past that antiquity has been to a great extent divested of its mysterious character. It has multiplied books, which may justly be styled the granaries of knowledge, to an extent which it is impossible to conceive; and driven superstition and ecclesiastical imposition from the gloomy face of Europe.

Intercourse

Intercourse, likewise, forms one of those broad lines of distinction which separate the civilized from the savage. We read of no nation in the annals of history that was civilized and yet had no intercourse with foreign countries—whence it is obvious that it stands at the root of all civilization. Intercourse immediately leads to commerce, and commerce brings

in its train a numerous host of blessings. Commerce makes a nation rich; and the possession of wealth inspires a degree of independence, and brings the nation to a flourishing condition. It is by intercourse with a refined nation that a savage people are reclaimed from a state of barbarity—by its means, the more advanced are made to teach the more backward—and nations separated from each other by thousands of miles of ocean are brought in closest contact and knit in one great family.

Government.

We are now come to the next mark of civilization which is Government. Although the formation of society arose from an inherent principle of our nature, yet the tendency of the human passions which rule the mind in the rude state is such as endangers its welfare and permanency. The object of Government is to counteract this vicious inclination and promote the happiness of the community: and the principle upon which Government was originally founded was that each must sacrifice a portion of his natural privileges in order to retain and enjoy the rest in safety. But the object of Governments have often been perverted by the ambition of rulers, who used their authority to the injury of the public good. When victory beckoned enterprize, and war sounded the trumpet in the ear of ambition; force made conquest, and conquest was accompanied by slavery. Since this, the happiness of the subject was lost sight of, and the aggrandization of the prince was substituted in its place. The result of this perversion was most detrimental to the welfare of society;—it gradually grew up to the establishment of austere despotism, whose evils are without number and without parallel. The pages of History teem with instances of a most woeful character to attest the truth of the above assertion. In some of the countries within the tropics where despotism reigns with unbounded sway, the people are in an extremely miserable condition; they are trodden down not only by an ungrateful monarch, but also by a band of minions who take a delight in gleaning that from the poor subjects, which the royal rapacity of their master might have left behind. Industry which is the source of national wealth droops and languishes at the presence of despotism—every exertion on the part of the subject to better his condition is paralyzed by the uncertainty which prevails in despotic Governments of retaining and enjoying the honest acquisitions of his labour:

"The poor inhabitant beholds in vain,
The redd'ning orange and the swelling grain;

Joyless he sees the growing oils and wines,
And in the myrtle's fragrant shade repines"

The mind, too, is reduced to a very grovelling condition under the iron-rod of tyranny—the effect of despotism is generally to scare away each amiable muse, and beckon to favour cringing flattery. At the tyrant's terrific frown, virtue leaves her throne to her rival vice; —the loftiest flights of poetry, the boldest strains of eloquence, these vanish at the pestiferous breath of despotism. Hence it is obvious that under these circumstances, a Government cannot be said to indicate civilization. The species of Government, then, which can be said to constitute civilization is, that in which there are certain fixed rules which guide the monarch as well as the subject; and in which the people have a share—and it is the only one under which a nation can advance and attain the substantial advantages of civilization. History is at hand to furnish us examples, confirming the truth of our position: looking into the records of human experience, we find that in those states which were famed in antiquity for their political power, the people had a considerable share of authority vested in their hands—as in the petty states of Greece. The result of this participation in the Government preserved the Greeks their liberty, insured their happiness, and gave them that elastic spring of power, by which they were enabled with small means to dart across to the Asiatic continent and overcome, as if by miracle, the numerous hosts of Persia. A democratic form of Government such as this, gives scope for the rise of genius from among the lower orders of the people—for the display of that heroic strain of eloquence, which emanates from the lips of one burning with the fervour of patriotism: and under the genial influence of liberty, mighty warriors, discerning statesmen, and deep philosophers, arise from the coverts of obscurity to daylight and renown. The advantages that flow from political institutions may be still more strikingly seen when we view them as existing under the best form of Government, which now prevails in the blessed land of Britain. It combines in its nature, a monarchy, a democracy, and an aristocracy; in consequence of which the advantages peculiar to each of those three modes of Government, are collected, as it were, to a focus in the British constitution. Under the strength of this political fabric, the British have grown so wealthy and powerful as to challenge the "three corners of the world in arms," both in point of political strength and commercial enterprize. Whether we look to their scientific attainments—their skill in

practical mechanics, which renders them the first-rate nation in maritime affairs, their ingenuity in manufactures of every species, their extensive intercourse with foreign nations, and to the numberless luxuries of civilized life, which are ready at their command, we can scarcely find a parallel either in ancient or modern times—all this must be attributed to the liberty which the British enjoy :

" 'Tis Liberty that crowns Britannia's isle,
And makes her barren rocks and bleak mountains smile."

Added to the blessings which are conferred upon the British by their constitution, the Press has begun of late to co-operate with the Government in making them the most powerful and happiest nation on the face of the globe. The liberty of the Press is an essential bulwark of the English constitution—it is the means whereby the electors are enabled to have a hold upon the representatives of the people. I need not dwell any more upon this subject; but conclude with the significant words of Sheridan upon the power and influence of the Press. " Give them a corrupt House of Lords, —a venal House of Commons,—a tyrannical Prince,—a Truckling Court,—and let me but have an unfettered Press, I will defy them to encroach a hair's-breadth upon the liberties of the people."

Science.

The peace and order which accompany the institution of proper Governments, affords leisure for the free play of the intellect, and the consequent expansion of the human mind. The human mind ever on the wake for novelties, gives itself to observation—the result of observation is the acquisition of facts—and these facts systematised constitute in the new digested form what we call Science. Among the ancients the true aim of Science as constituting in the ascertainment of facts alone and the tracing of relations between them, was not discerned. In consequence of this, they blundered on the building up arbitrary theories wholly unfounded on observation. This misdirection of intellect was a great barrier to the advance of Science among the ancients, and also for a considerable time among the moderns till the time of the famous Lord Verulam, who introduced the beautiful and unerring system of tentative philosophy. Instances no doubt there were of brilliant geniuses flashing like meteors—amidst the darkness of antiquity, rending the veil with which prejudice and ignorance had covered the human intellect, and bursting out in all the glory of originality. But it is from the time of Bacon alone that Science must reckon her steady yet rapid progress; from this era it is, that she assumed a nobler tone, and extended her influence to every branch of industry and every

avocation of human life. Unassisted as man was, in the early stages of his existence, it is Science alone that has led him on from a state of absolute weakness to one of the unbounded power. If man's rude mind were not enlightened by the genial beams of Science, what would be his condition? that of a being on a level with the inferior creation,—satisfying his appetites on the spontaniety of nature, and sleeping away his days without any of those high aspirations for which his soul has been destined. But Science has invested him with powers such as gain for him the supremacy over this globe; and the application of its principles has abridged human labour to a miraculous degree. The laws and phenomena of nature are by the help of Science rendered subservient to the purposes of human life; the wind that blows round us and of which we so scarcely think is made to waft us from shore to shore. Science has rendered even so insignificant a thing as steam, an instrument of unbounded power in the hands of man. Who could have believed or even imagined, fifty years ago, that steam could be made to propel enormous vessels amid the trackless ocean, and before the flying storm? or drive locomotive carriages on railways at the inconceivable rapidity of 50 or even 60 miles an hour? Indeed, the invention of the modern steam engine by James Watt has completely altered the aspect of the world—it has suddenly put man in possession of a power, whose extent he can hardly conceive. Who would be disposed to believe us, when we assert, with scientific confidence, that with the assistance of a few hundred chaldrons of coal, a weight of 12,760,000,000lbs. can be raised to a height of 500 feet, or in other words that with that help, we can call into existence the greatest pyramid of Egypt—one of the mightiest fabrics raised under the eye of austere despotism, at an expense of no less than 20,000 human lives. Optical discoveries have conferred eternal and invaluable benefits in man. The Telescope is a celestial eye that gives us a magnificent prospect of the immensity of creation—it enables him to descry worlds, thousands of millions of miles distant from his terraqueous abode. While thus the Telescope conducts us into the dreary expanse of space, and fills our mind with the stupendous grandeur of God's creation, the microscope shows a world of beings in the leaf of a tree, in a drop of water, and in the milt of a fish—beings having life and organization, yet made so inconceivably small that thousands of them put together scarcely occupy an inch. These striking facts are thrown into the shade when set against others of a still more wonderful character, revealed to us by the recent Sciences

of Chemistry, Electricity, &c. They all tend to bring before our mind, such a profuse vision of the order, harmony, and miraculous wisdom of the Almighty architect, that the philosopher, who contemplates upon the scene, sinks within himself in humble adoration explaining "such knowledge is too wonderful for me—my understanding is overwhelmed by a wisdom, which I cannot understand!" Thus to the eye of the scientific philosopher the universe is an immense fabric raised upon eternal wisdom—every portion of which teems with admirable contrivances. Thus Science expands the human mind to an astonishing degree, and elevates the heart beyond the reach of prejudice and passion she goes a great way in establishing analogically the existence of an Almighty Creator by carrying instantaneous conviction to the unbiassed mind—nay, she has shown to a demonstration that the existence of a God is no hypothetical point hanging upon the spider thread of an inferential conclusion! The more we advance in Science, the more extensive grows our intellectual horizon:—every fact we acquire—every step we advance into the region of sublime truth—every ray of new knowledge striking upon our mind's eye, augments our store of substantial information, strengthens and emboldens us in the pursuit of philosophy, multiplies the sources of pure intellectual delight by affording us

"A feast of reason and a flow of soul."

These are some of the most striking and pre-eminent effects of civilization. Comparing then this state of man, with his primeval condition, we cannot help giving vent to feelings of endless gratitude towards Him under whose providential care man has arrived at this pitch of refinement. Moreover, when we consider that the sun of civilization from the day of his dawning on the sacred banks of the Ganges, although obscured by many a temporary eclipse, brightened and gained strength as he careered onwards to "isles of the western main," we cannot refrain from pleasing ourselves with the hope that a day will come when man will reach that goal of perfection which seems to be destined for him for

"This infancy of being, cannot prove
The final issue of the works of God;
By boundless love and perfect wisdom formed,
And ever rising with the rising mind."

THOMSON.

(Signed) A. SASHIAH.

APPENDIX C.

Abstract Account of the actual Disbursements of the Madras University, during the first six months of the official year, 1846-47, *or from* 1*st May to* 31*st October,* 1846.

1846		Rs.	A.	P.	Rs.	A.	P.
	HIGH SCHOOL.						
	Amount paid the High School Establishment, including the Secretary's Department and Government Scholarships, from 1st May, to 31st October, 1846, - - - -	12,337	3	4			
	Ditto House-rent from do. to do.	1,260	0	0			
					13,597	3	4
	CONTINGENT CHARGES.						
	Books, Book-binding, &c., - -	619	7	2			
	Furniture and Instruments, - -	240	8	0			
	Printing, - - - - - -	10	0	0			
	Stationery, - - - - - -	76	4	2			
	Sundries, - - - - - -	883	5	3			
	Government Reward to A. Sashiah, -	70	0	0			
	Pacheapah's Endowed Scholarships,	528	13	6			
					2,428	6	1
					16,025	9	5
	DEDUCT.						
	Government Reward from the Treasury as per Minutes of Consultation 6th May, 1846, - - -	70	0	0			
	School-fees realised during the above period, - - - - - -	2,306	0	0			
	Received from Pacheapah's Trustees, on account of their Endowment in the High School, - - -	2,500	0	0			
	Value realized for School Books lost,	36	2	8			
					4,912	2	8
	Net amount of Expenditure on account of the High School, - -	.....	..		11,113	6	9

MADRAS UNIVERSITY, }
25th January, 1847. }

Abstract showing the Advance received from Government on account of the Madras University, from 1st May to 31st October, 1846, the actual Disbursements during the same period, and the balance of Cash remaining on the 31st October, 1846.

1846.		Rs.	A.	P.	Rs.	A.	P.
	Balance of Cash on 30th April, 1846, appropriable to future Disbursements, - - - - -	9,236	11	6			
	Advance received from Government as per order, dated 10th July, 1846,	10,000	0	0	19,236	11	6
	DEDUCT.						
	Disbursements as per Abstract Account from 1st May, to 31st October, 1846,	.....	..	..	11,113	6	9
	Balance of Cash on 31st October, 1846, appropriable to future Disbursements, - - - -	.....	..	..	8,123	4	9

Errors Excepted,

(Signed) A. J. ARBUTHNOT,

Officiating Secretary.

Abstract Account of the Actual Disbursements of the Madras University, during the last six months of the official year 1846-47, *or from* 1*st November*, 1846, *to* 30*th April*, 1847.

1846-47.		Rs.	A.	P.	Rs.	A.	P.
	HIGH SCHOOL.						
	Amount paid the High School Establishment including the Secretary's Department and Government Scholarships, from 1st November, 1846, to 30th April, 1847, - - - -	14,035	7	5			
	Ditto House-rent from do. to do.	1,260	0	0			
	Advance to Mr. A. A. Gordon, 2d Master, - - - - -	1,000	0	0			
	Advance to Gunnesh Sastri, Mahratta Moonshee, - - - - - -	210	0	0			
					16,505	7	5
	CONTINGENT CHARGES.						
	Books and Book-binding, - - -	184	13	5			
	Furniture, - - - - - -	99	10	0			
	Printing, - - - - - -	44	14	0			
	Stationery, - - - - - -	307	3	0			
	Sundries, - - - - - -	81	1	0			
	Pacheapah's Endowed Scholarships,	540	0	0			
	Elphinstone's Endowed Scholarship, -	72	0	0			
					1,329	9	5
					17,835	0	10
	DEDUCT.						
	School-fees realized during the above period, - - - - - -	2,174	0	0			
	Realized on Books lost by Scholars,	21	15	0			
	Advance received on account of Mr. Gordon, - - - - - -	1,000	0	0			
	Amount deducted from the salary of Mr. Gordon, - - - - -	500	0	0			
	Do. do. from Gunnesh Sastri,	105	0	0			
	Remaining in favor of Pacheapah's Trustees, - - - - - -	1,111	2	6			
					4,912	1	6
	Net Amount of Expenditure, -				12,922	15	4

MADRAS UNIVERSITY,
5th June, 1847.

Abstract showing the Advances received from Government on account of the Madras University, from 1st November, 1846, to 30th April, 1847, the actual Disbursements during the same period, and the balance of Cash remaining on 30th April, 1847.

1846-47.		Rs.	A.	P.	Rs.	A.	P.
	Balance of Cash on 31st October, 1846, appropriable to future Disbursements, - - - - -	8,123	4	9			
	Advance received under order of Government dated 8th January, 1847,	10,000	0	0	18,123	4	9
	Disbursements as per Abstract Account from 1st November, 1846, to 30th April, 1847, - - - -	.....	..	..	12,922	15	4
	Balance of Cash remaining on 30th April, 1847, appropriable to future Disbursements, - - - -	.....	..	..	5,200	5	5

Errors Excepted,

(Signed) A. J. ARBUTHNOT,

Secretary.